

# AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint  
Agricolae." . . . VING.

VOL. II.

BALTIMORE, FRIDAY, SEPTEMBER 15, 1820.

NUM. 25.

## AGRICULTURE.

### MEETING OF THE *Agricultural Society of Virginia.*

OCTOBER 19, 1818.

*Papers presented to the Agricultural Society, and ordered  
to be published by the Committee of Correspondence.*

#### THE NECESSITIES, COMPETENCY, AND PROFIT OF AGRICULTURE, BY COLONEL JOHN TAYLOR, PRESIDENT OF THE SOCIETY.

However superfluous it may seem to the learned, an inculcation of correct elementary ideas of Agriculture, will be highly useful to the ignorant. Even a profound geologist or a skilful chemist, if he is an agriculturist, may derive some benefit from practical essays, referring to the surface of the earth, and the visible course of vegetation. Milton makes an angel warn Adam against star-gazing, and Eve damned mankind by an imtemperate curiosity for unprofitable knowledge. To be diverted from the use of warmth, by contemplating the sun, or from a thrifty cultivation of plants by profound researches after their food, would evince a disregard to these admonitions. By shooting our thoughts on the wings of imagination into the regions of abstruse knowledge or equivocal conjecture, far beyond pressing necessities and immediate benefits, we should advance in the improvement of agriculture, as a student would advance in arithmetic by beginning with algebra. An attempt to soar at a bound, to the summit of agricultural science, would retard a progress, step by step; and by suffering our attention to be absorbed by the end, we should be seduced into a forgetfulness of the means. Whatever useful results may occasionally proceed from profound inquiries into the arcana of agriculture, it is not improper to moderate the disposition of the human mind for penetrating into obscurity, and discovering secrets; by shedding new light upon known truths, and soliciting a greater respect for acknowledged facts. We are more pleased with being reminded of what we know, than with being instructed in that of which we are ignorant. Intellectual contemplation is sometimes an obstacle to judicious exertion, and too often alluring, as an agreeable luxury, instead of being devoted to beneficial effects. New attitudes may recal us to a more careful consideration of old certainties, and rouse us to efforts which lead to the beneficial employment of present time, and save us from the disappointment of distant anticipations. The food of plants, like that of man, is sufficiently known for general use; they are nourished by rich earth, as men are by fat meat; and whatever benefits may ensue, in particular cases, from abstruse prescriptions, yet an exchange of the plainer suggestions of nature, for the conjectural diet of the most profound physicians, would hardly add to the general health of either. Had we exhausted the obvious means for improving the state of our agriculture, and propelled it to the point of perfection to which these can conduct it, imagination might give itself the rein, dive into theories, and soar in speculation after discovery—but where it now stands, we must start, before we can gain the station, which may suggest other resources, inspired by necessity, or derived from new circumstances. These considerations have suggested the propriety of treating of agriculture, in a state of infancy or of decay, rather than as having arrived at a great degree of perfection; and of preferring an attempt to awaken the mind to a more attentive contemplation of what it knows, to adventuring upon the more arduous task of bestowing recondite instructions, of which it may be unwilling to

accept. "I tell you that which you yourselves do know."

#### THE NECESSITIES OF AGRICULTURE.

These are, fertility, tools, industry and houses. Without fertility, tools are useless; without tools, industry must fail: without industry, fertility and tools are unproductive; and without houses, crops are lost and stocks perish. A capacity in land to produce something, does not satisfy an indispensable necessity of agriculture. It must produce enough to defray all the expenses of cultivation, to supply the inevitable wants of the labour employed on it, and to pay the taxes. If it produces less, the farmer must perish, or resort to some other mode of subsistence. Hunger, the loosest professor of moral rectitude, must become his preceptor; and the poverty arising from heartless attempts to gain subsistence, is his last comforter. No refuge exists from a calamity, produced with inflexible certainty by an insufficiency in the soil, to supply him with necessities, but to desert his home, to enlist under the banner of vice, or to improve his land. The insufficiency of a great number of farms in Virginia, to yield the bare necessities recited, must drive many farmers to one of these remedies. The first is a voluntary banishment from our country and our friends; the second, a banishment from Heaven; and the third, an exertion of a strong, virtuous, and patriotic mind. The success of the last is certain, if we use the means placed by Providence within our reach. Land, in proportion to our numbers, abounds, nor are we less bountifully endowed with simple means for its improvement, which carefully husbanded, and skilfully applied, will save us from exile or guilt, and bestow upon us subsistence and wealth.

These means are, manuring, good ploughing, grass seeds sown with, or upon small grain, and enclosing. An opinion exists, that the common resources for manuring are scanty, and unequal to the end of fertilizing a poor soil. This opinion is the offspring of a want of industry or skill to collect or combine them with the other specified means.—The deity, far from committing an egregious blunder in balancing expenditure and supply, has provided the latter amply for the encouragement and reward of industry. By absolute sterility, nothing is produced, and, of course, nothing is furnished for improvement; but whatever be the degree of productiveness, it furnishes resources for improvement, which will exceed the expenditure of the soil. By preserving every species of litter, especially cornstalks, and applying it before or about the commencement of fermentation; by penning every species of stock in summer, slightly littering their pens even with leaves or broom-straw, and folding them on litter in winter; and by preserving the manure arising from both means, from being wasted by premature putrescence or evaporation, a poor farm may be gradually improved, until it will yield internal resources adequate to a copious annual manuring of one seventh, at least, of its arable contents.

Such cultivation, as will produce both subsistence and an improvement of the soil, is indispensable to any tolerable system of agriculture. On rich lands, that which is bad, applied to a large space, or that which is good, applied to a small one, may yield subsistence; but a large space of poor land badly cultivated, or a small one well cultivated are equally incompetent to the object. A multitude of farms in Virginia, are so exhausted as to be unable to supply the wants of their cultivators, the expenses of cultivation, and the taxes. Good ploughing is an essentially of manuring, for redeeming their owners from a state of bondage; Not that kind of ploughing by

which the earth is exposed to reiterated strokes of the sun, or a thin soil is exchanged for a barren one by a deep reversal of a level surface; but that, which by the use of narrow ridges, will diminish the injury from too much heat, deepen the soil by a revolution between ridges and furrows, and admit gradually of being very deep, without exchanging a surface having some fertility, for a substratum having none.

The efficacy of good ploughing towards fertilizing the earth, depends in a great degree upon embalming a mass of vegetable matter below the surface, and thus protecting it against the depredations of heat, moisture, and air, until its essence is caught and absorbed by the crop, instead of being evaporated into the atmosphere. Manure is vegetable matter, and of course vegetables are manure. By sowing grass seeds with grain, we prepare a coadjutor for the plough, from which it derives its chief efficacy in fertilizing the earth; and provide a copious supply of food for other vegetables, which, like fish, subsist and fatten by eating each other.

Enclosing vastly accelerates the process for fertilizing the soil, by increasing the quantity of vegetable matter or manure to be consigned to the plough. To practise it successfully, however, it must be combined with some resource equivalent to the loss of the scanty pasturage, from which it excludes the emaciated cattle. Artificial grazing and hay meadows, of high or low land is a resource by which, whilst nineteen acres are manuring themselves without human toil, one may be made to produce more grass, than the whole twenty now do; and stocks of every kind may be thus rendered infinitely more valuable, both for furnishing subsistence to man, and for fertilizing the earth.

Such are the elementary principles for coming at the first necessity of agriculture, which, if too simple for a country, wherein this science exists in practical perfection, may yet be more suitable for our circumstances, than the chemical experiments of Sir Humphry Davy himself. The vast portion of our lands deficient in fertility, ought to be the object of solicitude; and a mode within the reach of every farmer, for removing this barrier to his prosperity, and destroyer of his hopes, is preferable to a vain reliance upon gypsum, lime or marl, so generally unattainable; or to curious inquiries after new discoveries, so frequently abortive. From an experience of many years, during the use of several hundred tons, I believe that even gypsum, the prince of mineral manures, whatever may be its temporary effect, will have no lasting influence in fertilizing a farm, unless it is associated with the four specified means. Then indeed, it becomes an ally, which will accelerate a victory they are able to gain in its absence, but to which gypsum is wholly incompetent without their assistance.

This plain and practical mode of coming at the cardinal agricultural necessity, is not less adapted for feeding the moral nature of man, than for supplying his physical wants. Hope, however liable to be mortified by disappointment, or satiated by gratification, continues to animate the human mind, and will for ever be the best source of human happiness. A discovery, by which it might be constantly enlivened, without being discouraged by fruitless efforts; and constantly gratified, without being cloyed, would satisfy the utmost wish to which man can aspire, and disclose the utmost felicity, of which he is capable. Some approach towards this moral longitude; is made by the farmer who gradually enriches his land. Though fruition increases, as he proceeds, it generates new hopes, and kindles new ardour; nor will he in fertilizing his land, during the longest life, have occasion, like a satiated conqueror, to weep, because he has nothing more to attain.

Tools are a necessity of agriculture, next to fertility. I will not assert, that the difference between a water mill and a mortar for reducing corn to meal, could be used as a just illustration of the difference in effect between an excellent stock of agricultural tools, and those now used in the state. But as I admit my own title to a share of the censure, I may say, that our tools are extremely defective. Even Freeborn's cast iron ploughs, of his largest size (a recent invention) saves one half of the labour necessary to do the same work, with those I used a few years past, which were at least equal to the average of the ploughs used in the whole state. This immense saving results in some measure, from the superior facility with which they work, but chiefly from the superior effect of the work itself, which renders the customary repetitions, not only superfluous, but pernicious. These ploughs remove the necessity of repeated exposure to the sun and laceration of roots, required by bad ploughs, and bestow a larger crop from diminished labour. The loss from bad ploughs, and from the deficiencies of other tools, weighs heavily upon private industry and national prosperity. To exchange this silly debit for the gain arising from good tools, would manifestly produce both a private and public profit of double the loss. My unskilfulness in mechanism, and inexperience of the great variety of agricultural tools, compels me to regret an inability to display the vast importance of this subject. But I am so thoroughly impressed with it, by the inefficacy of most of the tools we possess, and the total absence of many, undoubtedly, of great value, that I believe a tool office, for effecting improvements unlogged by monopoly, and collecting foreign models, which might be used with impunity, would be more useful than the patent office for new inventions. A practical agricultural commissioner, whose duty it should be to collect and try agricultural tools in use throughout the world, applicable to our circumstances, at the public expense; and to make annual experimental reports of their efficacy, might be a great national benefit. Blinded perhaps by fervour, I do not discern that even this suggestion is extravagant or impracticable; but one plainly practicable and not less beneficial to Virginia, may perhaps obtain more approbation. The imperfect state of our tools will be perceived every where, by mixing with the class of farmers, of inferior wealth, but of high national importance, and much individual merit. They have no means of travelling abroad to look for them, and if they had, it would be better to find them at home. Next in importance to arms for defending our country, should be instruments for cultivating it; and the latter enhance the value of the former, in the degrees that they render the country more worthy of being defended. Next also, to improving the soil, this object deserves the attention of our society, and the fitness of Richmond for effecting it, looks us full in the face.—Water, wood, iron, coal, and a wide communication with the state, decide it to be the proper place for the experiment; and with adequate funds, the society might awaken a degree of individual enterprise, not liable to the inertness of public undertakings, which might contribute largely towards diminishing a national misfortune; and become a nest from which would issue broods for propagating throughout the state, samples which might relieve us from it entirely. As an humble illustration of the importance of tools, drafts of three, namely, a plough for opening the furrow on a ridge for planting corn by a string, a skimmer and a pronged hoe, are herewith forwarded. They are very simple instruments, and yet by the first, the corn ground receives a valuable working when it is planted; by the second, one third of the labour formerly applied to its cultivation is saved; and by the third, at least half of that usually applied to raising and scattering manure.

Industry is the third necessity of a prosperous state of agriculture. The high authority which has declared, "that idleness is the root of evil," decides that industry is the root of good. Yet it unfortunately happens, that wealth is too often considered, as discharging us from an obligation, a compliance with which is necessary, to render us happy ourselves and

useful to society. The mischiefs of this opinion are vastly aggravated by the consideration, that wealth bestows an ability to exert industry with discretion, and to extend its benefits with most effect. A consciousness of charity or generosity, sometimes founded in vanity, and often productive of evil, is the solace resorted to for the neglect of a virtue always productive of good. The rich, who bestow money, may possibly nurture idleness, and never add to the general stock of subsistence. A monkey, possessed of a heap of guineas, might scatter the shining baubles amongst his species; but one which by his labour should augment their food, would render them more essential services. Where is the mighty merit of giving money which we never earned; whether derived from our ancestors, or obtained by the dice; as an oblation to vanity or to fortune? Whether it shall excite the industry or feed the dissipation of the receiver, is a matter of indifference to the giver, when his object is either to gain popularity on earth, or to compound with Heaven, by purchasing for himself an impunity for idleness, with the donation of a casualty, or the virtuous labours of another. Whatever may be the motive for industry, its fruit is individual and general good. A mere exchange of money from hand to hand, creates nothing, and does not augment the national prosperity. Comfort, plenty, freedom and virtue all spring from industry. The surplus of its labours bestows power, knowledge and morals upon a nation. Its loss would beget debility, cause the vices resulting from want, and lead to barbarism. The industrious man alone, can exercise charity and liberality, from a principle, radically founded in virtue and unalloyed by vanity. Unlike a broker, between an ancestor and a beggar, he gives a portion of his own industry to advance the happiness of others. Not seduced from honest duty, by the deceitful theory—"that idleness compensates society for its vices, by giving employment to industry," he feels that his idleness would produce an irretrievable loss, incapable of being compensated by his extravagance, and sure to settle somewhere in the garb of want and misery. If this reasoning did not conform to the general sense of mankind, the action of the caliph Motassem, who contributed his personal labour to advance the happiness of a poor man, by assisting him to raise his cart out of the mire, would not have been commemorated for ages, whilst all his donations of money have sunk into oblivion. The temporal punishments attached to a deficiency of industry, prove that its nature is not neutral, and that it cannot gain the rewards of virtue. No success in any science or employment useful to mankind, is experienced without industry; and in that of agriculture, its absence more certainly predicts calamity, than in any other. However skilful gentlemen farmers may be in theory, or however ingenious in conversation, let them not beguile themselves into an opinion, that may dispense with this necessity of agriculture, and yet keep their estates. Without active efforts to produce substantial effects, they resemble astronomers who should feed their vanity, and waste their lives in considering the nature of comets, and calculating eclipses, without regarding their sublunary necessities. If productive industry was more painful than laborious researches in the regions of theory; if its solid fruits were too light to preponderate against the imaginary lading of the opposite scale; yet the injustice of shrinking from our due share of the burden, and of subsisting by accumulating its weight upon the shoulders of others, is still to be compared with the honesty of contributing our active efforts to the social treasury, and the beneficence of lightening the incumbrances of existence.

An election between the arts of employing or of killing time; between fleeing from the miseries of idleness to the pleasures of industry, or to an uneasy restlessness and vicious habits, would seem to present no difficulty, and to suggest no hesitation; and by this election the fate of agriculture in Virginia must be decided.

The remaining necessity of agriculture to be noticed, is the want of houses for the comfort of man, the security of crops, and the preservation of beasts. The process from hollow trees to caverns, and from

caverns to cabins, ought to impair farther views, and to eradicate out of free and civilized countries, vestiges by which savages are designated. Yet the habitations of freemen as well of slaves, remain in a multitude of cases both insufficient for comfort and for health. They are therefore deserted without regret, and a pernicious wandering habit infuses itself into the mind, because nothing worth retaining is surrendered, and no evil not already endured is anticipated. Whilst men suffer, beasts perish in multitudes for want of a protection against the severities of the winter, which their involuntary domestication gives them a right to expect, and which it is the interest of their owners to bestow. But the loss of crops is yet a greater evil arising from this deficiency. In the articles of small grain, fodder and hay, it is so enormous, that when computed from some extent of observation, the conclusion, that it amounts annually to twenty-five per centum, seems within the fact. When it falls upon individuals who make no profit, it often crushes them; and when it is deducted from profit, it impoverishes those classes of society which are not agricultural. This will be demonstrated by the following considerations.

The competency of agriculture, in this country especially, is a phrase of infinitely greater scope, than would be conceived without an attentive examination. Its duties, like the duties of moral rectitude, spread from the narrow circle of providing sustenance for one man or one family, into a wide expanse, created by the obligations arising from society, and the interests interwoven with national prosperity. In the United States, the responsibility of agriculture does not stop at food for all eaters. It extends to the support of government, to the encouragement of commerce, to the sustenance of the learned professions, to the introduction of the fine arts, and to the support of the more useful mechanical employments. This responsibility, the sponsor for knowledge, for good manners, for liberty, and for national power, constitutes a demand upon agriculture, which must be paid, to win and combine blessings, in which, if she is wise, she will largely participate. Being the source from which all classes, and particularly the numerous family of the *nati consumere fruges*, must derive their subsistence and prosperity; all classes have a deep interest in rendering it more copious, because the success of each must expand with its growth, and contract with its decline. Its exuberance cannot like an exuberant treasury, or a pecuniary speculation, be monopolised by idleness or corruption, but must be diffused to excite industry, and nourish virtue. Whatever shall cripple its capacity for rendering to society, services, in comparison with which, even those of the hero and the patriot become diminutive, ought to be avoided by every wise politician with care, and resisted by all who understand their own interest, with firmness. Every stab given to agriculture, reaches their own vitals; and every folly by which she is injured, must be expiated by their own suffering. Where then, can be found a difference of interests between agriculture and the other useful occupations of society, when their prosperity must result from hers, and she can only reap the blessings of a well organized social state, by providing for them? As agriculture is not an isolated interest, like a political project or a fraudulent artifice, capable of being dis severed from the body politic, without producing its death; rendering it less productive by measures, however honest, or by the dexterities of avarice or ambition, however plausible, must gradually produce the impoverishment they promise to prevent, and prevent the common good they promise to produce. A common interest ought to suggest the national policy in regard to agriculture. As it is worthy of a universal patronage on account of the universal benefit, every intelligent individual, however distantly removed from its labours, may perceive the strongest motives, for exerting his republican influence, and uniting with agricultural societies, to increase a profit, by which his own prosperity must be graduated. In a scale combining agriculture with its effects, barbarism stands opposite to its utmost incompetency; and the most perfect state of society, to its capacity for discharging its

various duties; and between these extremities, lie the several correspondencies inseparably linked, compounded of accessions of competency and advances towards social happiness. To what object more glorious, can the powers of the mind and of the purse be directed, than to one which with oracular certainty, deals out happiness or misery in extremes, and in all the intermediate gradations? In considering the competency of agriculture, we have seen that its profit and benefit to society, must begin and proceed together; must exist or perish together; and that neither can contract or expand without a strict concomitancy of fate. Hence results a demonstration that any policy is erroneous, by which the profit of agriculture is diminished, to foster a personal or local interest. As agriculture is a national property, such a policy is simply that of a farmer, who should starve some of his family, for the sake of poisoning a few with ice cream and sylabub. As our country is one great farm, and its inhabitants one great family, in which those who work the least receive the greatest share of the profit, those who are not farmers have a deeper interest for increasing the profit of agriculture, than the farmer himself; because his subsistence must precede theirs, and theirs can only be supplied from his surplus. The larger this surplus the greater will be their gain. An expectation therefore of benefiting the other classes of society, by laws tending to diminish agricultural profit though they may have a personal or local effect upon some partial selection, must be injurious to the rest of the family.—Agricultural profit being the aliment of the whole family, every member of it except the patronised, loses a portion of his share by its diminution; and every partiality to a co-heir, inflicts the injustice in some degree, suffered by those beggared to enrich one, under the policy of primogeniture.

To illustrate these opinions, I shall refer to the two cases of taxing iron and barns. An enhanced price of iron during embargoes and wars, has constantly suggested a degree of economy in its use, from whence has resulted bad agricultural tools to a vast extent. This generates habits of long duration and hard to eradicate. Bad tools impoverish the soil, diminish crops, and check or obliterate improved modes of cultivation.—The poorest farms require the best tools, but as they also require the greatest economy, the evil becomes aggravated by a necessity for submitting to it: and retrogradation ensues, where an advance in improvement is most needed. Whether the price of iron is enhanced by war, embargoes, or taxation, this effect will be commensurate with the extent of such enhancement. In the same mode the taxation of barns operates. It prevents to a great extent the erection of houses for the preservation of that portion of the profit of agriculture, upon which the prosperity of the other classes of society depends. The frugality in iron diminishes crops, the frugality in houses loses them. Whatever is lost by bad tools, or want of houses, comes out of the surplus upon which all other classes must subsist. The loss falls almost exclusively upon them, as the farmer must first live upon what he can save. If there is good ground for computing the loss from bad tools and want of houses, at twenty five per centum of the crops, how erroneous must be the arithmetic which adopts a loss so enormous, for the sake of acquiring a pittance so inconsiderable, as that which is produced by taxing iron and barns? And how miserable the policy of other classes of society, which is unable to discern that the endowment of some few individuals with this pittance, inflicts an enormous loss upon themselves? Other instances of this political arithmetic are omitted, as being less evident, though founded in the same principles; and because it is sufficient merely to suggest the subject in a country abounding with patriots, more able to explain it.

One intention of this essay is, to impress the error of beginning at the wrong end to improve our agriculture. It would be premature to wander away from its primary necessities after some brilliant discovery, before we have established a sound foundation for beautiful superstructures; and would be probably nearly as useless as the compass to the hull of a ship without rigging. Fertility, tools, industry and houses, cited to illustrate this intention, are indispensable portions of the tackle, by which agriculture must prepare for being steered by the rudder

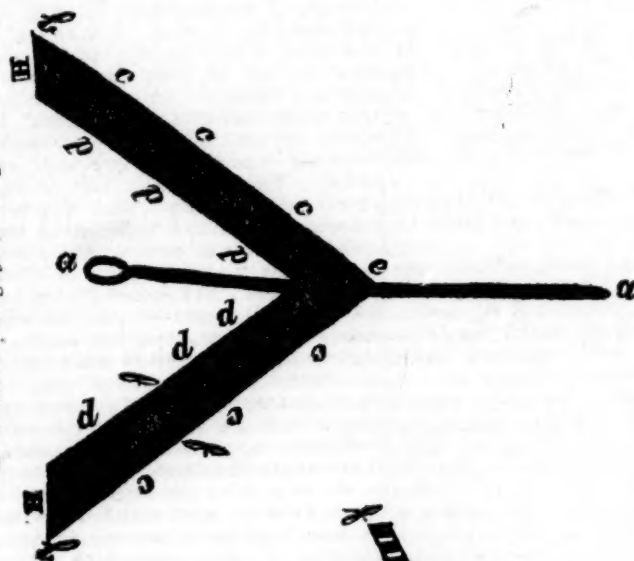
of chymistry, into the harbour of opulence. It mean not to decry the labours of the learned in discovering new sails for accelerating the voyage, but only to insist upon the necessity of fitting the ship for withstanding storms, before she is launched into an ocean of theory, after new discoveries. A beautiful feather may be pleasing, and the entire plumage of a beautiful bird may be admirable; but a fine feather stuck into the young bird, just as its down begins to spring, might retard its growth to maturity, and become a deterring example.

Among the necessities of agriculture, tools occupy the second place, and their improvement is recommended with solicitude, because if the society should happily acquire pecuniary means adequate to the object, its accomplishment is evidently more attainable than the accomplishment of many other objects of infinitely less importance. A large sum loaned to a capable and enterprising individual, for several years, without interest, under conditions insuring the erection of the works, and securing the re-payment of the principle, might

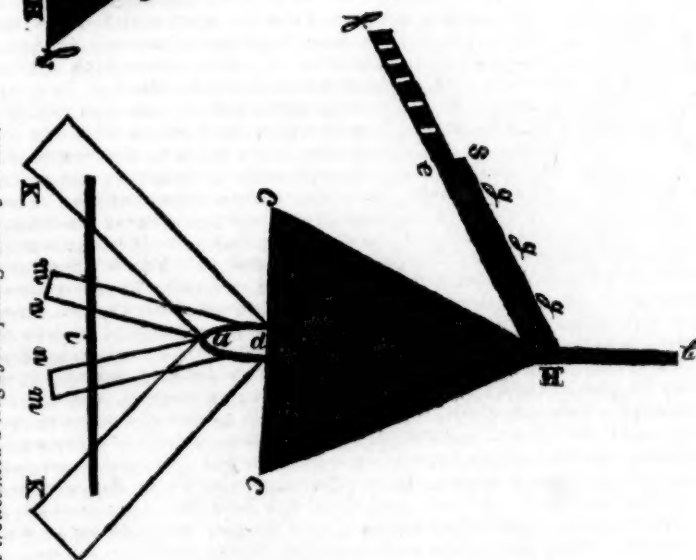
guarantee success, both by enforceable stipulations and private interest.

The universal range of the benefits diffused by agriculture was adverted to for the purpose of soliciting an effectual patronage for the efforts of the society, by the eloquence of self-interest, and the prayers of national prosperity. A conviction that national prosperity and individual comfort, can only flow from its competency, would unite even an oppressive government and avaricious confederacies, in the policy of increasing the profit of agriculture, however they might differ about its distribution; what then must be its influence on a government which loves the people, and subsists to advance their happiness? A policy calculated to diminish the profit of agriculture, would be precisely equivalent to a project for preventing the accumulation of rain invariably distilled in refreshing showers over the earth. Agriculture without rain, would flourish as all other occupations of society would, without agricultural profit. The staple occupations upon which all others are engrafted must flourish, or the scions will dwindle.

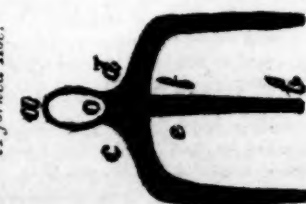
No. 1.  
A Skimmer or Plough for weeding Corn.



No. 2.  
A trowel-hoed Plough for opening water furrows.



No. 3.  
A forked Hoe.



*Explanation of the foregoing Cuts.*

No. 1.

*a a* An iron bar  $1\frac{1}{2}$  inch wide, and 1 inch thick. At one end an eye for the helve, at the other a duck's bill, 25 inches long, having a small crook at the junction of the wings next the eye, to raise the eye two inches, that it may not drag on the ground.

*b b* The outer edges of the wings, to be 26 inches apart.

*c c c c c c* The cutting edges of the wings, to be on a level with the lowest part of the bar.

*d d d d d d* The upper edges of the wings to be three inches higher than the lower edges. The wings are to be made rounding to increase the ease with which the earth falls over them.

*e H* Length of wings, 20 inches.

*f f* Width of wings, 5 inches. The lower edges of the wings to be sharp, and had best be steeled.

The depth of its work is regulated by the traces.

Far preferable to the harrow as a weeding plough. It is drawn by one horse or one ox.

No. 2.

*a H* Length of the hoe, 20 inches—*a d* Length of the eye, 5 inches.

*c c* Width of the hoe, 16 inches—*H c H c* The cutting edges of the hoe, 18 inches long. The edges are to be near two inches lower than the centre *H d*; so that the eye may stand that distance above the earth, so as not to drag in it, and also to cause the under part of the plough to be hollow for the same reason.

*H b* The point of the coulter, 8 inches—The coulter is in a line with the eye. *H f* the length of the coulter, 22 inches.

*H e* The lower part of the coulter, 12 inches long, with the cutting edge *g g g*. The coulter is fixed at the end of the plough by a tenant and mortice—The former on the end of the plough, the latter in the head of the coulter. *e s* Width of the upper end of the coulter, 2 inches, of the cutting part three.

*a K a K* Mould-boards—Length 18 inches, width 9 inches. *K K* Width between the mould-boards, 20 inches. In the eye is fixed a wooden helve to which the mould-boards are nailed. The upper end of the coulter is made fast in the beam. *i A* pin one inch diameter let into the mould-boards and wedged, to keep them from being pressed together. It is the best plough I have tried for opening water furrows, to be drawn by two or more horses. The deeper these furrows are made, the more efficacious they are in improving the soil. *m n* Interior mould-boards to be added when the plough is used to plant corn, to be 12 inches long, 6 wide and 6 apart. Then it is drawn by two horses, and works on the top of the ridge or list, to which the exterior mould-boards give a wide dressing, whilst the interior make the furrow narrow at bottom, in which the corn is dropt by a string and covered with the foot.

No. 3.

*a b* Length of the hoe, 19 inches—*a o* Length of the eye, 3 inches—*c d* Width below the eye, one and one tenth of an inch—*e f* Size of prongs seven tenths of an inch square. The centre prong from the eye and the external prongs from the bend gradually diminished towards their points. The eye beginning to bend between the points *c d*, form an angle of 45 degrees with the plane of the prongs.

It is far preferable to the horizontal pitch fork for raising and scattering manure. It is also an excellent garden hoe.

[We have on several occasions endeavoured to draw the attention of our readers to the utility, and indeed necessity of correct and detailed accounts of farming; we are glad to see that the subject has attracted the attention, and been reduced to a simple system by an intelligent farmer of Scotland—we recommend to perusal the following review taken from "The Farmers Magazine," for May, 1820; a Periodical work exclusively devoted to Agriculture and Rural Affairs, published quarterly in Edinburgh:]

Edit. Amer. Far.

*The Farmer and Land-Steward's Assistant; or, a Specimen of Farm Book-keeping; exhibiting, in a concise and simple Form, the Transactions in the Arable Grazing, and Woodland Departments; a General Account of Cash, and an Account of Charge and Discharge upon each Department. The whole selected from the Books of real business which have for many years been kept in the same form by the Author. By JOHN MATHER, Castle-Hill, Carse of Gowrie. Dundee, 1819.*

It is about eight years since we endeavoured to draw the attention of our readers to the importance of a simple and correct System of Book-keeping, adapted to the use of Farmers; with what success, we have no means of knowing. Since that time, and indeed before, there has been no want of Forms, published under the name of Farmers' Account Books, sufficiently minute perhaps, but probably too complicated, as well as expensive, for general use, and which have been therefore chiefly confined, we suspect, to gentlemen's stewards and bailiffs, with whom it is a matter of necessity to exhibit a view of their proceedings to their employers. The results afforded by these methods of book-keeping, are also, generally speaking, confined to an account of outlays and receipts, and do not present a satisfactory solution of several questions, which it is of importance to a farmer, upon an extensive scale of business, to see clearly stated and correctly resolved. All that seems to be thought necessary is, an account of the cash received and paid away, and of the debts and credits of the concern; so that the balance between these men and their employers may be ascertained periodically. And this purpose is usually obtained by a sort of empirical method of entering the particular sums, without such classification or arrangement as would be required to show the profit or loss on each department, and on every article of each department.—Even where a subdivision of the accounts is made, as into Corn-lands, Grazing-lands, the Dairy, &c. the transactions under each of these heads are commonly all brought together, without any discrimination to show from what particular fields, or species of grain, or descriptions of live stock, the profit or loss on each department arises; and still less can it be known from these accounts, what particular rotation of crops is the most advantageous; whether it is most profitable to breed, rear, and fatten stock, or to carry on only one or two of these branches; besides several other matters, upon which the success of a farmer materially depends.

Nothing can show more clearly the imperfect manner in which farm accounts are generally kept, than the offer lately made by the Board of Agriculture of a considerable premium to the person who should lay before them a correct method of keeping accounts taken from real business: a premium which, as far as we know, has not yet been awarded, or perhaps not even claimed. We will venture to say, that there is not one farmer among a hundred, even confining the number to such of the class as have had the benefit of a good education, who can show, from their books, what is the expense of raising an acre or a quarter of wheat and other kinds of grain on their farms, or the prime cost of a stone of beef or mutton; or what any particular field has paid them for a series of years, under a variety of crops.

It would be still more hopeless to expect, that the returns from capital laid out, not in such a way as to be returned with its profits within the year, but in the more durable improvement of the soil itself, should be exhibited in their books. And yet few things certainly can be of more importance to a farmer; than to ascertain whether a sum so expended, a thousand pounds, for instance, on lime, drainage, &c. has increased the produce of the land so much, as to replace that sum, with a profit, before the end of his lease.

It is not to be denied, however, that it is a much more difficult matter to attain any thing like accuracy in these and other points, than in the transactions of a merchant. One reason—perhaps the principal reason—seems to be, that a farmer unites in himself two different characters; he not only buys and sells like the merchant, but is at the same time a producer

or manufacturer; and, from the very nature of his business, it becomes difficult, perhaps impossible, to separate the transactions which properly belong to each of these characters: and, besides this, much of his produce, which he consumes on his farm, has no uniform marketable value, and if entered like a merchant's account, under the heads of Dr. and Cr. must have a value set on it somewhat arbitrarily. This value, too, ought to be higher or lower, not merely according to the quantity and quality of the produce, but also according to its comparative scarcity or abundance in different seasons. Owing to a difference in the seasons, also, the prime cost of articles which have an ascertained marketable value, such as wheat and other kinds of corn, will vary considerably: the quantity may be less, while the expense of obtaining it is the same; or the expense may be increased, by wet and otherwise or unfavourable seasons, while the quantity is the same.

It may be useful at any rate, though not always worth the labour of reducing to practice, to keep in view such questions as we have adverted to. Upon a large scale of farming, under a lease of twenty years or more, the necessary labour, we think, would be exceedingly well bestowed. The accounts that it might be necessary to keep with this view, would perhaps be advantageously classed into Two Parts: of which the first would contain all that is now commonly exhibited in farm-accounts, and the second those subsidiary and less perfect entries which seem required to give a farmer a correct view of his concerns. We would by no means recommend, that sums estimated somewhat arbitrarily, for straw, dung, &c. or generally all the articles of home growth consumed on the farm, should be mixed with actual payments or receipts. Such an intermixture could not fail to lead to some degree of confusion or uncertainty as to the amount of the real profit or loss on the whole concern. To separate them would also have this advantage, that if it was found inconvenient to proceed with the latter description of accounts, they might be given up, without occasioning any alteration in the certainly more important record exhibited under Part First.

According to this method, we would have a Day-book and Leger, under Part first, from which should be seen the daily operations on the farm, and the transactions connected with it; with inventories of stock, crop, and implements, once a year or oftener. In the ledger there might, as in a merchant's, be both real and personal accounts. Under Corn, for example, there would be placed, on the Debit side, the seed, labour, and, generally, the whole expenditure incurred in raising it, including the interest of capital; and, on the Credit side, the quantity of the produce and its value, whether used for seed, paid to servants, consumed in the family, or employed in feeding horses and other kinds of live stock, as well as what was actually sold. The balance on this account would thus show the profit or loss on corn—or at least on the tillage lands generally; as, if it was found inconvenient to separate the labour and other expenses of corn from those incurred for turnips, potatoes, and other green or fallow crops, the value of these crops would have to be placed, on the Credit side, along with that of the corn. In case of turnips or other crops consumed by the farmer's own stock, the value might be somewhat arbitrary; and they should therefore be placed by themselves, or the estimated price might stand in an inner column. By similar accounts, the profit or loss on live stock, generally, might easily be ascertained: and it is scarcely necessary to mention, that the personal accounts should exhibit a correct view of the debt and credit of every one with whom the farmer has any dealing, even with his day-labourers.

In this general view of his affairs, any sum that might be expended on the improvement of his farm might be converted into an annuity of such an amount as would suffice to replace that sum, with its profits, before the end of the lease; and such annuity would fall to be added to the rent. Strictly speaking, the price of horses and implements, which require to be

replaced in a few years, should also be converted into an annuity; but except that of a threshing machine an article of considerable value, perhaps such a degree of accuracy is not very easily attained, and hardly worth the trouble of attempting; as the inventories taken at different periods may show the decrease in the value of the horses and implements, or what is lost by their tear and wear, better than a previous estimate, founded on their probable duration; and this decrease, if thought necessary, may be added periodically to the general debit of the farm.

From this Part First, it would be easy to form an annual abstract, which should show, in a few lines, the profit or loss on that portion of a farm which is kept in tillage, and the expense and produce per acre; and also the profit or loss on live stock, or rather the difference between the price at which they were bought, and at which they were sold. To make out the real profit or loss under this department, the extent and quality of their pastures, and the quantity of the other kinds of food consumed by them, and the expense incurred for them in labour, &c. would have to be taken into account. The difference between the sums at their account in the ledger, or between what they were bought for and what they sold for, would be the sum received for keeping them, or for the pastures and other food they consumed, and the expense of feeding them; and it would be easy, on comparing the acreable profit of those pastures, &c. with that of the corn lands, to ascertain generally whether tillage or grazing was the more profitable employment of the land. This could not, however, be ascertained with all the certainty that might be wished; because, though the pastures might appear to pay less than the corn land, yet in that state they might actually be kept for a time with greater advantage than in corn, inasmuch as the soil might be improving in its future productiveness when brought into tillage. Whether the stock was bought, as we have here supposed, or bred upon the farm, would not make any difference; though, in the latter case, we would have the estimated price of them, as has been already observed with regard to turnips, &c. kept separate from the other money columns.

But whether it might be thought expedient or not to separate the tillage and pasture lands, or the crops produced annually, from those that continue in the ground for several years, such as cultivated or natural herbage, there can be but one opinion as to the expediency of ascertaining, with perfect accuracy, the outlays and receipts, the debits and credits, and, by means of inventories, the stock, crop and implements on hand at different periods, at least once a year; and from these to exhibit a pretty exact, though a general view, of the profit or loss of the whole concern. This is nearly all that Mr. Mather proposes to do, as we shall see immediately; and his method is so easy, that any one moderately skilled in common arithmetic can find no difficulty in adopting it.

As to what we would call Part Second, we have hardly room to say a few words. The object of it would be, to furnish answers to the following questions.

1. What crop—wheat, barley, &c. do you find most profitable on your particular farm?
2. What rotation of crops—alternate white and green crops, or two or more years pasturage of the land sown to grass before being ploughed;—or, in the case of clay soils, whether a course of four years, or of six years &c.?
3. Whether your corn land, or the land employed in feeding live stock, yields the greatest profit; and what kinds and sub-species or varieties of live stock, pay best for the food they consume?
4. What is the expense and produce, and the profit or loss, on the different fields or soils of your farm?

These questions, and others to which they lead, are evidently important; nor does it appear difficult to frame a series of accounts in such a manner as to give the answers sufficiently near the truth for every useful purpose. A Day-book, such as ought to be kept at any rate, if sufficiently comprehensive and also minute in its details, would afford the materials wanted; along with a Field-book, in which every field should have a separate portion allotted to it; and appear as Debtor for the seed, labour, and other ex-

pense incurred on it; and Creditor for the produce it yields, whether it be an annual crop or pasture. In the latter case, the time for which a specified number of sheep or cattle were kept on it, must be entered in the first place; and the general profits of the stock, ascertained afterwards, would fall to be divided between this and any other fields, of which that stock consumed the produce.

But it is our purpose at present to make Mr. Mather's method of Book-keeping known to our readers.

The first is the *Day-Book*, which begins with an Inventory and Valuation of Stock under the following divisions—1. Furniture, &c. or Implements. 2. Grain; Potatoes and Yams, and Hay and Oatmeal. 3. Live Stock, Horses, Milch Cows and other Cattle, Swine and Sheep. And, lastly, Unthreshed Corns, to which the quantity or value is not affixed. This book is not, however, confined to the arable farm, but contains the transactions under the three different departments to be afterwards mentioned. After this, the entries are made in the usual way, according to the date of the transactions. With a view to the purpose we have adverted to, these entries are not sufficiently minute; the *Day-book* contains no record of the labour performed: the thrashing and sales of grain are entered, without mentioning the fields on which it grew, &c. Besides this, we should have thought it of some importance to have prefixed, along with the Inventory, a short view of the farm, mentioning the state of every field, or what was its last crop, and what was to be its next; but instead of this, we do not know even the extent of it. The book begins with the 22d November; and if any wheat was sown at that time, the seed and labour, and, if after fallow, the preceding year's rent of the land, should have appeared in the Inventory itself.

The next is the *Cash-Book*, which also embraces all the three departments, and contains the sums received and paid, according to their dates, but without reference to either the *Day-book* or Ledger. Many of the sums on the credit side, including all those paid for labour, tradesmen's accounts, &c. have not been previously entered in the *Day-book*; and here, as in the *Day-book* itself, the sums received for corn and other produce are entered generally, or without any notice of the fields from which they were obtained.

In the *Ledger*, which is the next in order, the first account is, 'Farm Furniture and Labouring Utensils'; on the Debit side of which under the date of 22d November, 1816, stand the articles and their value, as prefixed to the *Day-book*; and on the Credit side, under the date of 22d of November, 1817, the same articles, and their value at this last period, and the two sides, are balanced by a sum to cover the decrease of their value during the year. The Horses' account is balanced by a similar loss, and the Cattle and Swine accounts by a profit. On the Debit side of the Butter is the quantity churned at different times, and on the credit the quantity sold: of which, and of its price, a particular account is subjoined, and also of butter salted and of cheese sold. This last, by the by, as well as some other accounts, has no corresponding entry on the Debit side; and in regard to both the Butter and Cheese accounts, and also Milk sold, if there was any, we think it would have been quite as methodical to have placed them under the head of the Cows; or, at least, the cows from which these articles were obtained, should have been particularly mentioned, and the quantity of milk they yielded.

Mr. Mather seems to consider these accounts as forming a separate branch or division of the Ledger; for, after a blank page, he returns to the Inventory for the corn, &c. thrashed and unthrashed in November, 1816, adding the unthrashed corn in November 1817; and then the regular Ledger accounts are resumed, beginning with Wheat, and following with the other kinds of Corn, Potatoes, Grass-seeds, Lime, Tares, Hay, &c. It seems a strange oversight that Potatoes are not credited with any sold: though there is a separate account of Potatoes sold to a considerable amount. Of the sheep on the farm, as shown in the Inventory in November, 1816, and of their Wool, there is no entry whatever in this part of the Ledger; though a separate account is found for this stock after one which bears the title of

#### 'An ACCOUNT of CHARGE and DISCHARGE.'

which contains the receipts and outlays on account of the Arable Farm alone; the same, so far as they go, with the *Cash-book*. But here these articles are arranged under separate heads; and this branch is closed with a Profit and Loss account; of some of the articles on both sides of which, we can make nothing. They do not appear to agree with the balances in the Ledger; and like the rest of this Account of Charge and Discharge, it contains no reference to either the *Day-book*, *Cash-book*, or *Ledger*.

We have already noticed the Sheep account, which, with Black Cattle, and Pastures let, form a separate branch under the head of Pastures: all the preceding accounts in the Ledger belonging to the arable farm exclusively. The Sheep accounts seem to be stated with much neatness and accuracy, showing the number of every description of that stock. And this is followed by an Account of Charge and Discharge for this Pasture department, similar to that already noticed which is subjoined to the arable farm; but without any Profit and Loss account.

The Woods, Plantations, &c. form a third department; of which the first account shows, on the one side, the account of Sales; and on the other, the Cash received; the Outlays appearing only in the Charge and Discharge Account; which completes this like the two former departments.

A general account of Charge and Discharge for all these three departments, under the several heads of 'Farm, Pastures and Park, and Plantations and Estate,' is subjoined, and may be said to complete the series of accounts. All the sums that appear in the *Cash-book* are here brought together. But, as we have already noticed, in the case of the Pasture department, there is still no Profit and Loss account either for that or the Plantations.

The work concludes with a 'Time-Book,' exhibiting a form for entering the employment of the yearly servants and day-labourers, and their rate of wages; and a 'Weekly Report,' containing a similar form; and one for entering 'Sundry Occurrences.' Both these forms are too limited for being useful, as they do not seem well calculated for showing the kind of labour performed, nor the fields on which it is performed.

It will be seen from our preceding remarks, and the incidental notices given in the course of this slight examination, that we by no means think this a perfect system. We might object to the valuation of the Live and Dead Stock; not because it is inaccurate, but because it is necessarily in some degree arbitrary; and therefore, the sums should not have been blended with real payments and receipts, but kept always separate;—to the want of a distinct view of the extent of the concern, and the mode of cropping the arable farm,—of references from each of the books to the others,—and, above all, of an accurate Profit and Loss account under each department. It would have been also satisfactory to have had a view of the capital employed, upon the arable farm at least, with some notice of the rent that might be got for it from a tenant; But, at any rate, not to ask too much, we should certainly have seen the extent of land under the several crops, and their produce per acre, and also the expense of obtaining it. This produce and expense cannot be known from the Charge and Discharge account, which is confined merely to the cash received and paid, and does not show the full wages of the labourers—oatmeal, &c.—nor the value of the corn and other food given to the horses—nor even that of the seed when it is the produce of the farm itself. Notwithstanding all this, however, we sincerely agree with the author, that his work 'may be useful to a very numerous and meritorious class of his countrymen,' and, as such, we earnestly recommend it to their attentive perusal.

FOR THE AMERICAN FARMER.

BLUE THISTLE.

In all good farming the destruction of noxious weeds, is a consideration of the very first importance. If we expect good crops, all com-

petition should if possible, be prevented. The grain sowed to meet our wishes, and our interest should monopolize all the surface of the soil, all its internal strength: to effect which, vegetation of every description, except the crop sowed, should be prevented, the ground loosened by deep ploughing, and well pulverized by repeated harrowing. To attain these desirable objects, we have sometimes many difficulties to encounter; to surmount or lessen which ought to be the unceasing aim of all common brethren of the plough. In this neighbourhood we have a weed of biennial growth, called, "Blue Thistle," every effort to eradicate which, has hitherto proved unavailing. Wherever it once gets well taken, without the land be well fallowed early in the spring and crop ploughed, after harvest, the chance for a crop of any kind of small grain, would be a poor one; and even with all this extra cultivation, it is sure to prove considerably injurious. To Indian corn it is harmless; but to wheat, sowed between the rows in the common way, without taking the corn off, stalk and all, and flushing the land, it is very destructive. Having a very long tap root, and growing vigorously upon all soils, no matter how poor it is believed to be an improver; and could we say to it as we can to clover "thus long shalt thou grow, and no longer," it would be a valuable, a desirable plant. But this is far from being the case. The tables are completely turned. Could the Thistle be endued with the power of speech, with a sarcastic smile, it might without the least deviation from truth, proclaim to man, nay, to nearly the whole animal and vegetable creation, in the emphatic language of Scottish defiance "noli me tangere!" The fine bottoms on the Rappahannock are generally overspread with this plant, and I am very much astonished, that the enlightened proprietors of those lands, who have paid so much attention to agriculture generally, should never have instituted inquiries as to the means of its extermination. In a publication of General Armstrong's which appeared about twelve months since, in the National Intelligencer, the application of salt is recommended. This I have tried without success. The object of this paper is to request information of some of your many subscribers, as to the way (if any be known) of getting clear of this pest. If it be said "dig them up with the hoe," I answer at once, it cannot be done; it certainly is impracticable to dig up Thistles as closely set over a surface of fifty or a hundred acres, as wheat is commonly sowed, and in many instances, more so. And worse than all; even this operation, troublesome as it undoubtedly is, would have to be repeated many years in succession, without any proof more conclusive than a conjectural inference of the final result. Like the rest of the Thistle species, they bear a great quantity of seed, which are wafted on wings of down to immense distances.

RICHARD B. BUCKNER.

Vint-Hill, Fauquier County, Virg. Sept. 3rd. 1820.

NOTE—The valley, or bottoms, as Mr. Buckner calls it, of the Rappahannock, through which the river of that name winds its way in a south-east direction from Fredericksburgh to the Chesapeake, a distance of seventy or eighty miles, and which is on an average about six miles wide, taken all in all, is one of the most beautiful and productive vallies

on our sea-board. The general character of the soil is a light sandy loam; much of it is of a reddish or chocolate colour, some clayey and stiff; and that near the base of the hills is gray, mixed with white sand and gravel, near the banks of the river, and its creeks, there is to be found the greatest abundance of rich shell marl; which on actual experiment, has been proved to possess as strong fertilizing qualities as any manure whatever.

About midway down this valley, near Port Royal, is the residence of Colonel Taylor the Virginia *Ara-tor*, whose farm is distinguished by the verdure of its fields; the abundance of its crops, and the cedar hedges, which for several miles in length, over a level surface, present a beautiful round top, evergreen ridge, absolutely impassible by hogs or any other kind of stock.

With regard to the Blue Thistle, one of the family of the "*noli me tangere weeds*," which Mr. Buckner seems so anxious to have every where eradicated, we understand from one among the most skilful and successful farmers of the valley of Rappahannock, that it is by no means so pernicious as has been supposed by some. Even Mr. Buckner admits, that it does no harm to corn, and that it would not only be innoxious, but serviceable, if it could, like clover, be removed at pleasure. It has been observed of some fields in the plains of the Rappahannock, which had been covered during one or two summers from the intense rays of the sun by this Thistle, and then broken up, according to the modern system of very deep ploughing, that the land had been much improved, as much perhaps, as if it had been sprinkled with gypsum, and covered with clover. Whatever of an opening or fertilizing operation which really belongs or has been attributed to the strong tap root of clover, must in like manner, be allowed to the similar root of this Thistle; and then, the Thistle, as is admitted, without drawing so much of the powers of vegetation from the soil, affords as good a covering from the fervid heat of the sun, and as much fertilizing vegetable matter, when well turned under by a strong deep cutting plough, as the best clover. Many of the farmers of the Rappahannock who plough deep, have found that the Blue Thistle can be subdued or eradicated at pleasure, and therefore, they esteem it a beneficial, rather than a noxious weed. But perhaps their success in removing it may be, in a great degree, owing to the loose nature of their soil, and the ease with which any plant can be torn from it; and the stiff, clayey lands of Fauquier and other parts of the country may present difficulties, and give a tenacious hold to the Blue Thistle with which the farmers of the Rappahannock are wholly unacquainted.—This subject strikes us as well worthy attention and further inquiry, on account of the important facts it is likely to develop, as to the manner in which covering, tap rooted plants have a tendency to protect all sorts, and to restore those which have been much exhausted.—The dry, sandy plains of the Rappahannock have not been found to be very friendly to clover, or indeed to any kind of grass; but in the most sterile portions of such soil the Blue Thistle is known to have a very refreshing and invigorating effect.

Edit. Am. Far.

TO THE EDITOR OF THE AMERICAN FARMER.

DEAR SIR,—The first thing I do generally, when I get into a difficulty is to scratch my head, and the next is to put on my considering cap,—you may well suppose the remarks in your last paper about my corn theory, to which you tacked a note like the tail to a Kite to keep it steady, made me scratch to some purpose, but I had no sooner got on my cap, than it appeared to me as plain as day, that if what you and your correspondent had said respecting my theory, did not fully confirm me in my "attitude," it went very far towards it.

Now be it known to all the world, as well as to "thee" and "thy" *Harford County* correspondent, that I wish it to be clearly understood, that in my opinion, the natural disposition of Corn is to grow with its leaves towards east and west, and that when it is planted in a manner to enable it to take this position (or attitude if you please) it will thrive better than when growing in any less natural manner, in consequence of its ability to throw out its leaves and to receive the rains and dews. I also wish it understood that to enable Corn to grow with its leaves east and west, it should be planted in rows north and south, or as nearly so as may be. I have never contended that corn planted in hills with perhaps half a dozen stalks in each hill, would uniformly grow in this manner, but to the contrary, have agreed, that every plant accommodates itself, in a degree, to the particular circumstances under which it is placed, whatever may be its natural disposition; thus for example, although they never "ran" in his cabbage patch, and although their natural inclination is to creep, yet would they if placed in a room where the light comes only from above, be found soon to show a disposition to mount towards the ceiling, while his cabbage plants, whose disposition when left to nature, is to stand straight, could not be kept so while in the house, and "standing in the window" without "turning" them round daily in consequence of the propensity of vegetables to lean towards the light, each of them would say, if vegetables could speak, "let me see the face of the sun, the fountain of my life."

This "turning daily," is mentioned by your correspondent to overthrow my theory, that turning a plant frequently will cause it to perish, and while he asserts that it kept his wife's cabbages straight, acknowledges that the "rough treatment" in moving killed the lavender "in the same box;" now all I can say on the subject is, that if it killed his wife's lavender, it is not unlikely the same rough treatment would have killed my Aunt's *Dark Mud*.

But the fact of his wife's early York *not dying* by turning in a warm room, with a fire in the winter, in every part of which the temperature was no doubt nearly equal, and where lights by night supplied the absence of the sun, is no reason they should not have perished turned as often in the open air, dependent only on that blessed luminary for light and heat, and although seventy plants were produced for setting out by these artificial means, it is no proof that more or better plants would not have been produced if the box had been left stationary; out of his own mouth it is clearly proved, that vegetables have particular inclinations which if permitted they will indulge, and this granted I have no disposition to combat his theory of *antipathies*, because it has nothing to do with the subject under consideration. Vegetables it seems are fond of light, and will grow in the manner best calculated to receive it; this, my dear sir, you clearly demonstrate by the example of the two sapplins "growing from the same stump or root," throwing their branches off in opposite directions, and looking like a "split tree;" until you allow one or the other more room to "pasture" as also the difference between the growth of a tree against a "Dark Brick," or I presume, a "Dark Mud" wall, and one growing against the

back of a light open summer house."—Now sir, grant me the fact, that trees as well as cabbages and squash vines have their inclinations, and I shall not combat your theory of trees going to "*pasture*," or contest the point whether they like best the *front* or the *back* of a summer house, and for the same reason that I yield to your correspondent, *they have nothing to do with the growing of corn*. Some people think that if they prove their adversary wrong, it is an evidence of their being right; but as this opinion is far from being correct, I shall confine myself solely to what concerns *myself*, and endeavour to prove that *my* opinions are right, without any regard to the correctness or incorrectness of the "*attitudes*" of "*thee* and *thy*" correspondent.

Let it be ever borne in mind then, that I have spoken of *Corn* planted in *rows north and south*; and let it also be borne in mind, that your correspondent has tested my theory by running to a corn "*patch*" of *about 300 hills*, standing *about fifty yards* from the house, where he found testimony confirming, not in his opinion my "*attitude*," for there was *about as many*, at least, witnesses testifying against as for it, or, which I presume is the same thing, *for as against it*.—Not being able notwithstanding all his "*partiality*" for me to establish my position here, he hastened to a corn "*field*," (planted also it is presumed in *hills*,) distant *about 300 yards* from the house—but it seems, that the *field* and *patch* had "*conspired*" together, notwithstanding their distance from one another, (meeting occasionally at *pasture* no doubt, as I see no reason why *Corn* should not occasionally "*run*" to pasture as well as trees) to overthrow my theory, as they grew east, west, north, south or otherwise, according to the "*attitude*" of the germ. I shall not dispute with him the distance of the *field* and the *patch* from the house—and from one another, the fact of the *conspiracy* or the manner in which corn grows when planted in the *hill* for a reason similar to that which caused me to decline a contention on the other points, viz: that *all this has naught to do with corn planted in rows north and south*.—Grant me that corn will grow at all, and grant what you have said with respect to the propensities of trees and other plants—and I hope to convince both you and your correspondent, that corn so far from being an exception to those laws which govern the vegetable kingdom is under the particular influence of them; we know that the sun flower turns to the sun and it occasions no surprise: we know that trees of every description turn their leaves and throw their limbs towards the sun, and this occasions no surprise; we know also, that the north part of the bark is thick and the south side thin, this occasions no surprise; we know that *cabbages* cannot be kept straight in a window without "*frequent turning*," that vines will creep or "*run*" to the light—that when shaded will "*dwindle and die*," and all this occasions no surprise—but when it is asserted that corn grows in the manner *most conformable* to the laws which govern all other plants, the fact is not only stoutly denied by your correspondent, but every argument that can be hit on, is used to disprove it, and in addition, they are countenanced by the

weight and influence of the opinions of one whom all your readers must allow is better qualified to "*handle*" the subject with his pen, than they are to "*handle*" their ploughs,—I do not make the same boast that *Archimedes* did of his *lever*.—Grant me however, that corn *grows* and I ask no more—you cannot deny that it has roots, stalks and leaves, that its leaves grow only on two opposite sides, and that these sides are on its greatest diameter;—we will now suppose a stalk of corn growing by itself—what position would be most favourable for it to receive the full benefit of the sun? Certainly not with its leaves north and south—because the north leaves would be shaded both by the stock and by the south leaves—the stalk would also be shaded by the leaves on the south side, and its greatest diameter be placed in opposition to the sun.—Then does it not appear natural that it should turn (for as you allow other plants have the power to do so, you cannot deny it to a corn stalk) to receive the benefit of the sun; if then the leaves *north and south* is the most *unfavourable* position for a single stalk, you must allow it would be the most so for a whole field—for your correspondent has shown us that corn fields, and corn patches, and consequently corn stalks think and act alike, or otherwise how could they "*conspire*?"—but sir, I do not mean to let this rest on mere hypothesis; neither shall it rest on your admissions, the admissions of your correspondent, or my own experience, to settle the question, whether laws are established for the government of plants, whether they are influenced by particular propensities or not, and if they are, whether corn is an exception.—I mean to prove from unquestionable authority, that they are thus influenced, and hope at least to show, that corn is under the government of the same laws that influence other plants.

It is shown by the Scriptures, that "*the rush cannot grow up without mire, nor the flag without water*;" that "*a tree planted by the river will bring forth its fruit in season*," that "*a good tree bringeth forth good fruit*," and that "*the tree is known by its fruit*."—I could show that nature's laws govern every thing, that the ways of the Almighty are mysterious, and beyond the ken of mortal man; we are told to "*sow our seed in the morning and in the evening*" to withhold not the hand, for we know not whether shall be right either this or that, or whether they shall both be alike good;" but thus much is given us to know, that "*the light is sweet*," and a pleasant thing, it is to behold the light of the sun."—Ecclesiastics, 12 chap. 6 and 7 verses.

If then the rush cannot grow up without mire, nor the flag without water, if the tree planted by the river is sure to bring forth fruit in season, if a good tree brings forth good fruit, if the tree is known by its fruit, if we know not whether it shall be right to sow our seed in the morning or in the evening, and it is only given to us to know that the *light of the sun is sweet*—shall presumptuous man presume to say that corn planted in a manner to be deprived of the benefit of its rays, will be likely to prosper as well as that which enjoys the *full effect* of its influence? The immutable laws of nature were established when God said—let the earth bring

forth grass, the herb yielding seed, and the fruit tree yielding fruit after its kind.—We know that things are so, but we know not for what wise purpose these laws were established. We know also, that plants having long projecting leaves, like those of corn, present them in the position most favourable to receive moisture—but lest this fact may be doubted on my mere assertion, we will hear what Saint Pierre has to say upon the subject. "*This adaptation of the leaves of plants in elevated situations for receiving the descending distillations of the rain, is varied without end—but the character of it is discernable in most, not only in their concave forms, but likewise in a little canal scooped out on the pedicle by which they are attached to their branches. It has something of a resemblance to that which nature has traced on the upper lip of a man—to receive the humours which descend from the brain, it is particularly perceptible on the leaves of artichokes, which being of the nature of thistles, agree with dry and sandy situations, these have besides collateral awnings to prevent the loss of any of the water that falls from Heaven—Plants which grow in places very hot and very parched, sometimes have their stems or their leaves transformed entirely into a canal.*"—Again, "*this aqueduct is traced on the pedicle of the smallest leaves of mountain plants, by means of it, nature has rendered the forms themselves of aquatic plants, susceptible of vegetation in the most parched situations.*"—I could quote many other authorities in support of this fact, but I presume it will hardly be thought necessary, it will undoubtedly be admitted, that limbs and leaves, were given to plants for use as well as ornament, and that a plant having the *free* use of its limbs and leaves or as some and among others Sir Humphry Davy calls them, "*Lungs*," (a term you and your correspondent will not deny them, considering their *pasturing* and *running* powers,) would be more likely to prosper than one more cramped in its position. We will now come down to the latest, and if not the best, the most practical authority we know of—Dr. Samuel H. Black, submitted last year to the Agricultural Society of Delaware, an essay on agriculture, and confined chiefly to the best mode of raising corn and potatoes, for which he was voted by said society a piece of *plate* with suitable inscriptions commemorative of the estimation in which his communication was held.—In page 65, he charges you particularly, to remember to place the *rows north and south*, to receive the full influence of the sun and southerly winds.—Now here is a fact asserted, by a first rate agriculturist, and admitted by a society of practical men, that corn thrives best planted in *rows north and south*,—whether the reason assigned by the Dr. is correct or not, others can determine as well as myself—it would appear to me however, that its prosperity must depend on some other cause besides those assigned by the Doctor—and this can be no other, than the ability it has of assuming that position *most natural to it*; for whatever benefit this arrangement may enable it to receive from southerly winds, it does not appear to be the most favourable for the reception of *all* the benefits of the light and heat of the sun. It has been asserted

by *St. Pierre*, that the use of the leaves of plants like corn is to convey moisture to the roots;" it cannot but be admitted then, that to have the proper use of the leaves, when planted north and south, they must grow east and west—familiar facts prove to us that plants are under the influence of light and heat—the Scriptures tell us that laws are established for their government—you and your correspondent both acknowledge the fact, and none surely can be bold enough to assert that corn is an exception of the *modus operandi*, I know nothing, whether like the camelion and your trees, it "pastures" on air, or whether like your correspondent's squash, it grows best in a "nice, rich hill," I do not pretend to say; all I know is that when allowed to grow in its own way, with a free use of the powers which nature has given it, it will thrive best, as may be further proved by comparing my corn field with those of my neighbour's planted differently.—My aunt Simplicity once disputed with me whether a cow had ears, and insisted that the horns occupied the very spot where ears should grow—the only means we had of deciding the dispute was to examine the cow. I have pursued the same rule with respect to my corn field, and the result is as follows—on counting 100 stalks in a row, it was found, that 73 stood east and west—9 north east, and south west—12 south east, and north west, and only 6 north and south.—Being as fond of my bantlings as my neighbours, may I ask you to give this one a ride, keeping it if you please, out of the mud, particularly *Dark Mud*.

Your friend and well wisher.

JEREMIAH SIMPLE.

TO THE EDITOR OF THE AMERICAN FARMER.

September 1st. 1820.

DEAR SIR,—In your 20th number, you have published two communications, upon which I will take the liberty to offer a few remarks.—The first is from "Jeremiah Simple," and the second from "A Farmer" of Cecil County.—If novelty be merit, Mr. "Simple" is unquestionably entitled to a great deal, for having struck out on the subject of the Hessian Fly, an opinion not less new, than surprising.—That very intense frosts do not kill the breed of Hessian-flies in Virginia,—whatever they may do with the Maryland breed, which I have never understood was different from ours I could prove by fifty or a hundred respectable witnesses, were it necessary. I could also prove by full as many persons, that in many instances of late years, the wheat last sowed,—that is, after hard frosts, has been more injured by the fly in the tide water country of Virginia, than that which was first put into the ground:—Still, late sowing is admitted to be the general practice. If it were true that every grain of wheat contained the maggot of the Hessian-fly, there must be some period when these maggots would hatch, and come out of their prison-house; when as each plant would have at least one formidable enemy, one would imagine from any ordinary principles of calculation, that all wheat makers would soon get entirely out of seed. But without meaning to deny, that Mr. "Simple" may have found maggots in some grains which he has examined, yet until he assures us that he has extended this

search to some hundreds of grains, and found them in all, without exception, I must be excused for wanting faith in his opinion. Nay more, had he examined ten thousand grains, and discovered that all were impregnated, some other proof, than any man's ipse dixit, I should think would be required, to show that these maggots were not Weevil, instead of Hessian-fly;—the first, as every body knows, being bred in the grain, whilst the last, I believe, have never been found there, until Mr. "Simple's" researches ferretted them out.

I differ materially from Mr. "Simple" on another point. He says;—"How the deposit of a single egg on a stalk of wheat is the means of impregnating every grain which that stalk may produce, is not my province to show."—Now with submission to his better judgment I humbly conceive this is the very thing which he is bound to show;—seeing that he has advanced an opinion not only contrary to all experience of cause and effect, but altogether incredible in itself. His illustration from the Garden Pea, is a very unfortunate one; for it is a fact well known to hundreds of gardeners, that the fly which lays the egg from which the pea-bug comes, perforates the pod whilst green, exactly opposite to each pea, and therein deposits its egg. These perforations are often so plain to the naked eye, in the form of small round specks of a different colour from the rest of the pods, that it is a wonder a man of Mr. "Simple's" industry and microscopic vision has never discerned them.

I have offered these remarks in opposition to Mr. "Simple's" opinions, not I assure you sir from any ill will to him, for he seems to be a jocose, good humoured fellow, and moreover a great friend to you, for which I like him the better; but because I think him decidedly wrong; and am prompted, like him, to contribute my mite towards the detection of error in a matter deemed important to agriculturists.

In regard to another disaster to which wheat is liable,—I mean the Rust, I perceive that your other correspondent, "A Farmer" from Cecil County, has expressed his belief, that the Berberry Bush communicates it. He perhaps, as well as many of your other friends may be gratified with the following extracts on this subject from Marshall's Rural Economy of Norfolk, which appears to me quite conclusive on this subject. To endeavour to ascertain the truth of this opinion, I had a small bush of the Berberry plant set in February or March 1782, in the middle of a large piece of wheat. I neglected to make any observations upon it, until a little before harvest; when a neighbour (Mr. John Barker from South Reps) came to tell me of the effect it had produced. The wheat was then changing, and the rest of the piece (about 20 acres) had acquired a considerable degree of whiteness (white wheat;) while about the Berberry Bush there appeared a long, but somewhat oval-shaped stripe, of a dark, livid colour, obvious to a person riding on the road, at a considerable distance. The part affected, resembled the tail of a Comet, the bush itself representing the nucleus; on one side of which the sensible effect reached about twelve yards; but on the other, not more than two yards; so

that probably the effect took place during a north east wind. At harvest the ears near the bush stood erect, handling soft, and chaffy; the grains slender, shrivelled, and light. As the distance from the bush increased, the effect was less discernable, until it vanished imperceptibly. The rest of the piece was a tolerable crop, and the straw clean, except on the part that was lodged: where the straw nearly resembled that round the Berberry; but the grain on that part though lodged, was much heavier than on this where the crop stood erect." To ascertain the comparative weight of the sound grain, and that which was smutted, Mr. Marshall states that it took twenty four of the latter to balance ten of the former; but upon actual trial he found that the vegetative virtue of the smutted grain was not wholly destroyed.—He mentions several other instances where it was ascertained beyond a doubt, that the Berberry Bush communicated the rust. This disease has been long known to be a species of fungus propagated by exceedingly small seed, of which the Berberry Bushes always produce more or less. Would it not be worth inquiry whether they may not be other bushes and plants which produce it? Thick sowing, and steeping the seed in strong brine, are believed by many good farmers to be effectual precautions against this disease.

A CORRESPONDENT.

TO THE EDITOR OF THE AMERICAN FARMER.

I have a Nectarine tree the only one on the farm, I know of no other in this neighbourhood. This tree blossoms and bears fruit, until more than half grown, when about the 1st of July the fruit becomes gummy, rots, or drops off.

Perhaps some of your subscribers have experience in cultivating this species of fruit tree, and can give a remedy. It is a delicious fruit when brought to perfection. Respectively, &c.

A. Mc. J.

## THE FARMER.

BALTIMORE, FRIDAY, SEPTEMBER 15, 1820.

Present Prices of Country Produce in this Market.

Actual sales—WHEAT, 76 to 78 cts.—CORN, 42 cts.—RYE, 40 to 42 cts.—OATS, 20 to 25 cts.—HAY, per ton, \$14 to \$15—STRAW, \$9 to \$11—HERRINGS, No. 1, \$2 75 to \$3—Do. No. 2, \$2 12½ to \$2 50—SHAD, No. 1, \$6 to \$6 50—Do. No. 2, \$5 to \$5 50—PORK, prime per cwt. \$14 to \$14 50—BEEF, from \$11 to \$12 50—FLOUR, from the wagons, \$4 50—WHISKEY from do. 34 cts.—BUTTER, pr. lb. 20 to 25 cts.—EGGS, per dozen, 12 to 15 cts.—VEAL, per lb. 6 to 8 cts.—LAMB, per quarter, 37½ to 50 cts.—BEEF, prime pieces, 8 to 10 cts.—HAMS, 14 cts.—MIDDLEINGS, 10 cts.—LIVE CATTLE, \$6—CHICKENS, per doz. \$2 to \$2 50—POTATOES, 37½ to 50 cts.—TAN, \$2 25—SCURGE—TURPENTINE, soft, \$2 25—SPIRITS, do. 35 cts.—PITCH, \$2 25—BACON, hog round, 7 to 8 cts.—LARD, 11 to 12 cts.—PORK, prime 12 to 14 cts.—BLACK-EYE PEAS, 65 to 70 cts.—SHINGLES, best, Deep Creek, \$8 50—Do. Small, \$4 75 to \$5.—FLOORING PLANK, 5-4, \$26—LONDON WHITE LEAD, \$4 25—AMERICAN do. \$3 75—BOILED OIL, \$1 37½—FEATHERS, 50 to 62½ cts.—COTTON, Upland, 20 to 21 cents. No sales of Virginia, or Maryland Tobacco the present week, that we know of.

BALTIMORE,

PUBLISHED EVERY FRIDAY,

BY JOHN S. SKINNER, EDITOR.